UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF VIRGINIA

Norfolk Division

BASF PLANT SCIENCE, LP, Plaintiff, v. COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION, Defendant.	)	C.A. No. 2:17-CV-503-HCM
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION, GRAINS RESEARCH AND DEVELOPMENT CORP., AND NUSEED PTY LTD., Plaintiffs-Counterclaimants, v. BASF PLANT SCIENCE, LP, AND CARGILL, INCORPORATED, Defendants-Counterdefendants, BASF PLANT SCIENCE GMBH, Counter-Counterclaimant.	)	

OPPONENTS' BRIEF IN OPPOSITION TO PROPONENTS' MOTIONS FOR JUDGMENT AS A MATTER OF LAW AND A NEW TRIAL UNDER FED. R. CIV. P. 50(B) AND 59

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BASF Plant Science, LP, BASF Plant Science GmbH, and Cargill, Incorporated (collectively, "BASF/Cargill" or "Opponents") hereby submit this brief in opposition to Proponents' Motions for Judgment as a Matter of Law and a New Trial Under Fed. R. Civ. P. 50(b) and 59 (ECF No. 852).

I. INTRODUCTION

Proponents ask this Court to set aside the jury's verdict based on Proponents' self-serving interpretation and characterization of the evidence. But Proponents cannot overcome their "hefty burden" to show that the jury's verdict should be overturned, and their motion should be denied in its entirety.

The jury heard a wealth of evidence providing it with more than a sufficient basis to conclude that BASF co-owns the Group B, or '792 Patent. Indeed, in denying Proponents' motion for JMOL prior to submission of the issue to the jury, the Court stated there was "ample evidence" for the jury to find in Opponents' favor on their MTEA claim. 10/30/19 Trial Tr. at 1925:4-9, Ex. 1 hereto. The trial evidence showed that the '792 Patent claims Joint Results subject to the ownership provision of the MTEA. Proponents' arguments that there can be no ownership under the MTEA because certain genes were publicly disclosed is incorrect. The MTEA provides no such limitation. There is no basis to disturb the jury's verdict.

Proponents also ask the Court to set aside the jury's verdict that the Group E, or '084 Patent, is invalid for lack of written description. Again, the jury's verdict is supported by sufficient evidence: Dr. Murphy's credible testimony about the specification's disclosure. Proponents attempt to overcome this shortfall with attorney argument based on excerpts of the specification they did not consider important enough to have their expert address at trial.

Proponents' remaining arguments concern portions of the patent specification that were already weighed by the jury. The jury found a lack of written description, and that finding should stand.

II. LEGAL STANDARD

A. Under Federal Rule of Civil Procedure 50, the Court Can Reverse the Jury's Verdict Only If the Record Before the Jury Cannot Support Its Verdict

"Because federal courts do not directly review jury verdicts," a party seeking to overturn a jury verdict under Rule 50 "bears a hefty burden in establishing that the evidence is not sufficient to support the [verdict]." *Price v. City of Charlotte, N.C.*, 93 F.3d 1241, 1249 (4th Cir. 1996). This Court is "compelled to accord the utmost respect to jury verdicts and tread gingerly in reviewing them." *Id.* at 1250. Accordingly, the Court "may not disturb the verdict where there was sufficient evidence for a reasonable jury to find in the non-movant's favor." *Dotson v. Pfizer, Inc.*, 558 F.3d 284, 292 (4th Cir. 2009). When a Court considers a Rule 50 motion, it must disregard any evidence not shown to the jury at trial. *See Smith v. Virginia Commonwealth Univ.*, 84 F.3d 672, 688 (4th Cir. 1996). In considering the evidence that actually was before the jury, the Court must (1) view the evidence in the light most favorable to the non-moving party; (2) draw all reasonable inferences in the non-moving party's favor; and (3) refrain from weighing the evidence or assessing the credibility of witnesses. *Ocheltree v. Scollon Prods.*, 335 F.3d 325, 331 (4th Cir. 2003).

B. Under Federal Rule of Civil Procedure 59, the Court Can Grant a New Trial Only If the Verdict Was Against the Clear Weight of the Evidence, Was Based On Evidence That Is False, or Will Result in a Miscarriage of Justice

A party seeking a new trial under Rule 59 must shoulder a similarly heavy burden. A party is not entitled to a new trial unless that party can show that the verdict (1) was against the clear weight of the evidence, (2) is based on evidence that is false, or (3) will result in a miscarriage of justice. *Cobalt Boats, LLC v. Brunswick Corp.*, No. 2:15-cv-21, 2017 WL

6034504, at *2 (E.D. Va. Dec. 4, 2017) (quoting *Atlas Food Sys. and Servs., Inc. v. Crane Nat. Vendors, Inc.*, 99 F.3d 587, 594 (4th Cir. 1996)). On a Rule 59 motion, the Court "may make credibility judgments in determining the clear weight of the evidence." *LifeNet Health v. LifeCell Corp.*, 93 F. Supp. 3d 477, 488 (E.D. Va. 2015), *aff'd*, 837 F.3d 1316 (Fed. Cir. 2016).

III. ARGUMENT

A. The Court Should Deny Proponents' Request for JMOL and New Trial Concerning BASF's Co-Ownership Claim

The weight of the evidence before the jury supports BASF's co-ownership claim. Because of that, Rules 50 and 59 do not permit this Court to disturb the jury's verdict with respect to co-ownership.

1. The weight of the evidence before the jury shows that the '792 Patent claims information subject to the ownership provision of the MTEA

Proponents' argument that there was insufficient evidence at trial that the '792 Patent claims information subject to the ownership provision of the MTEA is wrong. *See* ECF No. 853 at 5-12.

Ample trial evidence demonstrated that the subject matter of the '792 Patent claims "subsisted in" the Joint New Materials, Joint Transformed Lines and/or Joint Results under the MTEA, such that the patent is co-owned by BASF.[1] Most notably, BASF presented evidence showing that the claims of the '792 Patent recited two ***BASF proprietary genes*** that were

[1] Proponents' contention that BASF waived its MTEA claim related to combinations of genes and enzymes by not presenting it in the Final Pretrial Order (ECF No. 682) lacks merit. ECF No. 853 at 6, n.3. The Court already rejected that argument. 10/30/19 Trial Tr. at 1932:22-1933:16, Ex. 1. BASF devoted over 30 paragraphs in the Final Pretrial Order to its MTEA arguments. *See* ECF No. 682 at 41-45. There, BASF clearly asserted that BASF and CSIRO exchanged genes that encode enzymes, including "proprietary gene combinations and strategies." *See* ECF No. 682 at 43 (¶¶178-179) ("shared substantial information, including proprietary gene combinations and strategies on construct design and configuration" and "[m]ultiple constructs were jointly generated that included genes from BASF and CSIRO . . . .").

indisputably used in the ***Joint New Materials, Joint Transformed Lines, and Joint Results*** prepared under the MTEA.

Specifically, BASF's Dr. Andre testified that the *Ostreococcus tauri* Δ6 desaturase and *Thraustochytrium* Δ5 desaturase were identified in the MTEA as belonging to BASF, and that both genes were later claimed by CSIRO in the '792 Patent. 10/22/19 Trial Tr. at 997:12-998:2 (Andre Direct), Ex. 2 hereto; *see also* JX-12 at CSI00010363 (col. 28:16), -364 (col. 29:12), -470 (claim 1), Ex. 3 hereto; JX-52 at CSI00106424, -429, Ex. 4 hereto (identifying the *Ostreococcus tauri* Δ6 desaturase (D6Des(Ot)) and the *Thraustochytrium* Δ5 desaturase (D5Des(Tc)) as BASF proprietary genes and describing their use in the Joint New Materials and Joint Transformed Lines); PX-222 at CSI00106532 (same), Ex. 5 hereto.

CSIRO's inventors agreed. On cross-examination, Dr. Singh and Dr. Petrie each acknowledged that the '792 Patent includes BASF's proprietary genes that were used in the Joint New Materials of the MTEA. *See* 10/21/19 Trial Tr. at 717:18-720:9, 721:22-722:11 (Singh Cross), Ex. 6 hereto (testifying that 11 of the 13 joint constructs in the MTEA contained the *Thraustochytrium* Δ5 desaturase that was claimed in the '792 patent); 10/28/19 Trial Tr. at 1566:17-1569:11 (Petrie Cross), Ex. 7 hereto (testifying that the *Ostreococcus tauri* Δ6 desaturase claimed in the '792 Patent was a BASF gene); *see also* 10/28/19 Trial Tr. at 1569:14-1571:4 (Petrie Cross), Ex. 7 (stating CSIRO used BASF's *Ostreococcus tauri* Δ6 desaturase from the MTEA as a template to find other Δ6 acyl-CoA desaturases); JX-52 at CSI00106428-30, Ex. 4.

Dr. Bauer, BASF's scientific point person under the MTEA, testified that BASF shared with CSIRO substantial data regarding joint constructs (Joint New Materials is defined in the MTEA as constructs containing both CSIRO and BASF genes), Joint Transformed Lines, and

Joint Results. He explained that BASF brought to the collaboration its genes, constructs, *Brassica napus* transformation techniques, *Brassica napus* plants, and related confidential know-how in canola. 10/23/19 Trial Tr. at 1181:6-15 (Bauer Direct), Ex. 8 hereto; *see also* 10/23/19 Trial Tr. at 1188:7-1189:12, 1190:8-14 (Bauer Direct), Ex. 8 (during MTEA negotiations, BASF had achieved EPA and DHA in canola and decided to move forward with canola as its commercial crop, while CSIRO had no data in canola at this time). He testified that he was responsible for defining and creating the 13 joint constructs that constituted Joint New Materials under the MTEA, and determined the ultimate fatty acid content derived from the Joint Transformed Lines containing those joint constructs. *Id.* at 1191:21-1193:15 (Bauer Direct); *see also id.* at 1201:7-1202:8 (Bauer Direct) (confirming the joint constructs defined in the MTEA were created and tested); 10/22/19 Trial Tr. at 989:9-25 (Andre Direct), Ex. 2 (confirming joint constructs were designed by Dr. Bauer). And he further testified that the results of those joint constructs were shared with CSIRO throughout the MTEA collaboration. 10/23/19 Trial Tr. at 1193:19-1195:18, 1199:6-18 (Bauer Direct), Ex. 8 (describing presentations to CSIRO on May 28, 2008, September 25, 2008, and August 18, 2009).

That CSIRO obtained a wealth of information from BASF cannot be disputed given the trial evidence.[2] Indeed, Dr. Singh readily acknowledged that BASF shared with CSIRO extensive data under the MTEA, testifying: "the amount of data that BASF generated and the data they shared with us was quite substantial." 10/21/19 Trial Tr. at 692:23-693:11 (Singh Direct), Ex. 6 (discussing PX-299, an Aug. 21, 2009 email from S. Singh attaching "090821 BASF-CSIRO Joint Evaluation Summary"); *see also* PX-299 at CSI00142267, Ex. 9 hereto

[2] The Court recognized that there was "ample evidence from which the jury can conclude that [Proponents] used information in the patents that were issued subsequent to the MTEA . . . ." 10/30/19 Trial Tr. at 1924:20-1925:9, Ex. 1.

(noting Dr. Bauer "was very candid and willing to share a lot of information"). Dr. Singh also testified that BASF built joint constructs with BASF and CSIRO genes, and that the data provided by BASF was "of extremely good value" because it allowed CSIRO to see how the genes were operating in canola.[3] 10/21/19 Trial Tr. at 693:22-694:24 (Singh Direct), Ex. 6.

Further still, the jury heard Dr. Singh testify that he had the 2009 summary of the MTEA Joint Results inserted into his 2017 diary, the very year in which the '792 Patent was filed. *Id.* at 705:16-708:11 (Singh Cross); *see also* PX-198 (2017 Singh Notebook) at CSI00103349, Ex. 12 hereto. The jury also saw that Dr. Singh's 2017 diary referenced BASF's proprietary *Thraustochytrium* Δ5 desaturase in connection with CSIRO's patent strategy on July 3, 2017, the very week that CSIRO filed the '792 Patent. 10/21/19 Trial Tr. at 710:10-714:8 (Singh Cross), Ex. 6; PX-198 at CSI00103422, Ex. 12.

Moreover, Proponents did not contest that their patents were aimed specifically at BASF's LFK seed line; they acknowledged that to the jury. 10/31/19 Trial Tr. at 2084:6-2087:20 (Proponents' Closing), Ex. 13 hereto; ECF No. 821 (Op. and Order Regarding Remedies) at 16, ¶ 30. Likewise, Proponents' witnesses admitted that their Aquaterra product does not practice the '792 Patent, and that they could not actually practice the claims of the '792 Patent without BASF's permission since those claims require using BASF's proprietary genes. 10/21/19 Trial

[3] The evidence adduced at trial showed that CSIRO failed to achieve any omega-3 LC-PUFAs in canola until *after* the collaboration with BASF. *See e.g.*, 10/21/19 Trial Tr. at 698:25-699:2 (Singh Cross), Ex. 6 ("Q. Dr. Singh, the earliest CSIRO was able to make LC-PUFAs in canola was at the end of 2009; is that correct? A. Yes."); CX-1359 at GRD00000004 (2009 CSIRO Progress Report), Ex. 10 hereto (Dr. Singh reporting to GRDC that CSIRO's first generation construct in canola failed and that CSIRO was finally able to achieve LC-PUFAs in canola in its second generation constructs only after its collaboration with BASF); PX-214 at GRD00007012 (GRDC investment plan), Ex. 11 hereto (proof of concept for production of omega-3s in canola had not been achieved in 2009 and only expected to be "achieved by project end at 30 June 2010").

Tr. at 715:14-716:12, 721:22-722:15 (Singh Cross), 783:11-20 (Singh Re-Direct), Ex. 6; 10/28/19 Trial Tr. at 1507:22-1508:12 (Petrie Direct), Ex. 7.

Opponents proved to the jury that Proponents used Joint Results of the MTEA collaboration—what they learned from BASF—in their later patent filings. *See supra* at p. 3-6; *see also* 10/31/19 Trial Tr. 2102:16-2105:18 (Opponents' Closing), Ex. 13 (summarizing evidence put forth on MTEA claim). That evidence was more than sufficient, it was compelling. CSIRO self-servingly cites to large swaths of testimony from its own witnesses—Dr. Singh and Mr. Adler—denying that CSIRO ever used any Joint Results from the MTEA. But that does not negate the substantial evidence to the contrary.[4] ECF No. 853 at 9-11. The jury carefully considered the testimony of CSIRO's witnesses, made its own credibility determinations, and credited the ample documentary evidence and testimony presented by BASF over the evidence presented by CSIRO. For example, Dr. Singh tried to explain away the inclusion of the 2009 MTEA Joint Results summary in his 2017 diary by testifying that the ***2009*** summary was somehow placed into his ***2017*** diary by mistake because of "all the clutter on [his] desk." 10/21/19 Trial Tr. at 708:21-709:10 (Singh Cross), Ex. 6 ("my desk is, basically, totally cluttered with papers from all sorts of years and times"). But the verdict shows that the jurors found his explanation unconvincing. Instead, they were persuaded by the ample evidence that CSIRO used Joint Results of the MTEA in the '792 Patent's claims.

[4] Proponents also misrepresent the testimony of BASF's witnesses, Dr. Bauer and Mr. Beadle. ECF No. 853 at 11-12. Dr. Bauer and Mr. Beadle did not testify that CSIRO never used Joint New Materials, Transformed Lines and/or Results. Dr. Bauer and Mr. Beadle merely testified that they did not know what CSIRO did with the information provided under the MTEA. *See* ECF No. 853 at 11. That makes perfect sense given that Dr. Bauer and Mr. Beadle were BASF employees with no knowledge of CSIRO's inner workings.

2. The weight of the evidence before the jury shows that the MTEA's ownership provision covers the '792 Patent

Proponents make various arguments to the effect that BASF cannot co-own the '792 Patent under the terms of the MTEA. None has merit.[5]

First, Proponents argue that BASF cannot co-own the '792 Patent because the patent does not "claim" Joint New Materials, Joint Transformed Lines, or Joint Results. ECF No. 853 at 5-6. Proponents are incorrect. The MTEA broadly defines Results as "all results, data or information derived from the Evaluation." JX-52 at CSI00106412, Ex. 4 ("Joint Results – are Results with respect to Joint Transformed Lines and Joint New Materials"); *see also* 10/30/19 Trial Tr. at 1922:5-1924:19 (The Court), Ex. 1 (use of Joint Results from the MTEA includes at least, the use of genes from the MTEA to find similar genes, or the use of a gene and its order in the genetic pathway). As discussed above, the '792 Patent does in fact claim information derived from the MTEA; it does claim Joint Results.

Second, Proponents contend that BASF cannot jointly own the '792 Patent because the genes were publicly disclosed. That is likewise baseless. ECF No. 853 at 7-8. Whether the genes recited in the '792 Patent claims were publicly known is immaterial to BASF's ownership claim. Again, it is undisputed that the '792 Patent recites genes that are proprietary to BASF,

[5] Proponents also vaguely assert that they are entitled to a new trial because the jury "was not properly instructed" regarding Opponents' MTEA claims. ECF No. 853 at 9, n.6. Proponents have not met their "heavy burden" to show why a new trial should be granted. *Noel v. Artson*, 641 F.3d 580, 586 (4th Cir. 2011) ("The party challenging the jury instructions faces a heavy burden, for we accord the district court much discretion to fashion the charge.") (internal quotations omitted). At trial, the Court explained that the MTEA instructions properly were "based not only on the contract but on the facts of the case" and even adopted portions of Proponents' proposed instructions. *See* 10/30/19 Trial Tr. at 1930:18-1933:16, Ex. 1. Proponents' remaining complaints mischaracterize BASF's ownership arguments in the Final Pretrial Order (*see* ECF No. 853 at 9, n.6; *see also supra* n.1), and improperly rely on Proponents' untimely submission of proposed jury instructions (10/31/19 Trial Tr. at 2006:2-15 (The Court), Ex. 13).

and that such genes were used in the joint constructs prepared under the MTEA.[6] Contrary to Proponents' assertion, the ownership clause of the MTEA does not require that the information underlying the intellectual property arising from the Joint New Materials, Joint Transformed Lines, and Joint Results be confidential information. JX-52 at CSI00106415-416, § 6.2, Ex. 4. It suffices that the genes at issue were indisputably proprietary to BASF, were used in the joint constructs, and that the '792 Patent claims intellectual property subsisting in those constructs and Joint Results.[7]

Third, and for the same reason, Proponents are wrong in asserting that BASF cannot co-own the '792 Patent because BASF publicly disclosed the claimed combination of enzymes (years after the MTEA collaboration), and it was this public information that drove Proponents' patent-drafting strategy.[8] ECF No. 853 at 8-9. The ownership clause of the MTEA makes no

[6] Proponents argue that the fact that the Δ6 desaturase and Δ5 elongase genes from *O. tauri* are proprietary to BASF is irrelevant and that their proprietary nature does not prevent CSIRO from patenting an invention that uses those genes. ECF No. 853 at 8-9, n.4. First, the proprietary nature of the genes and the fact that BASF supplied them under the MTEA supports the jury's finding that CSIRO used Joint Results from the MTEA in its patents when claiming those genes. Second, Opponents have not argued that CSIRO cannot get a patent using proprietary genes. Instead, Opponents argue that to the extent that patent contains intellectual property subsisting in Joint New Materials, Joint Transformed Lines, or Joint Results, then BASF *is a co-owner* by operation of the MTEA.

[7] CSIRO relies on the Expert Report of Susan Crennan to argue for a different and self-serving interpretation of the MTEA. ECF No. 853 at 7. But the expert report is not evidence and Ms. Crennan did not testify at trial. CSIRO's reliance on the report is improper and should be rejected. *See Smith*, 84 F.3d at 688 (finding that "directed verdict motions are made at trial and decided on the evidence that has been admitted"); *see also, e.g.*, *Equal Emp't Opportunity Comm'n v. Exel, Inc.*, No. 1:10-CV-3132-SCJ, 2014 WL 12538166, at *8 (N.D. Ga. Feb. 6, 2014), *aff'd*, 884 F.3d 1326 (11th Cir. 2018) (declining to consider an affidavit that was not admitted or referenced at trial when ruling on the JMOL).

[8] Given the jury's verdict and the evidence adduced at trial, including the evidence concerning Dr. Singh's 2017 diary discussed *supra*, the jury surely could have determined that Proponents' patent-drafting strategy was based, not on any public information, but information obtained under the MTEA.

exception for information that was purportedly known, or becomes known, to the public; instead each side listed proprietary genes that were subject to the MTEA, regardless of whether they were publicly known. JX-52 at CSI00106415-416, § 6.2, Ex. 4. It further provides that intellectual property subsisting in Joint New Materials, Joint Transformed Lines, and Joint Results would be jointly owned by BASF and CSIRO "immediately upon their creation." *Id.* That the combination of genes claimed in the '792 Patent may have been publicly disclosed years after the MTEA collaboration is irrelevant. CSIRO's argument should be rejected for what it is: a litigation-driven attempt to back out of the bargain it struck with BASF.

Fourth and finally, Proponents argue that "although [BASF] was monitoring CSIRO's patent filings and commercial activity at least as early as 2010, BASF never raised any concerns to CSIRO relating to the alleged co-ownership of the '792 Patent or use of BASF's confidential information in the patent." ECF No. 853 at 11. But that, too, is misleading. The '792 Patent and its claims were not made public until ***January 2018***, after this litigation (initiated by BASF) was already underway. BASF filed its ownership claims promptly after CSIRO raised infringement of the '792 Patent in August 2018. Proponents' motion for JMOL and their request for a new trial should be denied with respect to ownership of the '792 Patent.

B. The Court Should Deny Proponents' Request for JMOL and New Trial Concerning Claim 1 of the '084 Patent

The weight of the evidence before the jury shows that claim 1 of the '084 Patent is invalid for lack of written description. Because of that, Rules 50 and 59 do not permit this Court to disturb the jury's verdict with respect to claim 1 of the '084 Patent.

1. The weight of the evidence before the jury shows that claim 1 of the '084 Patent is invalid for lack of written description

To satisfy the written description requirement of 35 U.S.C. § 112, "a patent's written description "must 'clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed." *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1346 (Fed. Cir. 2013). A claim is invalid for lack of written description when "one searches the [specification] in vain for the disclosure of even a single species that falls within the claims or for any 'blaze marks' that would lead an ordinarily skilled investigator toward such a species among a slew of competing possibilities." *Id.* at 1349.

Claim 1 of the '084 Patent recites *Brassica* sp. seed oil with 1-16% DPA (among other claim limitations). JX-17 at CSI00177462 (claim 1), Ex. 14 hereto. But the evidence at trial was clear that the alleged invention was oil including 7-35% DPA, not 1-16% DPA (as claimed). Opponents' expert, Dr. Murphy, emphasized that the distinction was critical; the range of 7-35% DPA indisputably did not cover Opponents' accused products. 10/24/19 Trial Tr. at 1338:23-1339:6 (Murphy Direct), Ex. 15, hereto. The evidence at trial was more than sufficient for the jury to conclude, as it did, that claim 1 of the '084 Patent was an improper broadening of the patent disclosure, and is invalid for lack of written description.

More specifically, Dr. Murphy explained to the jury that the '084 Patent specification repeatedly describes the inventive oil as having 7-35% DPA, not the claimed 1-16% range. *Id.* at 1337:6-12 (Murphy Direct). For example, in the "Summary of the Invention" section, the '084 Patent states that the invention was limited to 7-35% DPA:

> The present inventors have identified methods and plants for producing lipid with ***much higher levels of DPA than natural sources***. In a first aspect, the invention provides extracted lipid . . . wherein ***the level of DPA*** in the total fatty acid content of the extracted lipid ***is between about 7% and 35%***. In embodiments of this aspect, the level of DPA in the total

> fatty acid content of the extracted lipid is about 7%, about 8%, about 9%, about 10%, about 12%, about 15%, about 18%, about 20%, about 22%, about 24%, about 26%, about 28%, about 30%, between about 7% and about 28%, between about 7% and about 25%, between about 10% and 35%, between about 10% and about 30%, between about 10% and about 25%, between about 10% and about 22%, between about 14% and 35%, between about 16% and 35%, between about 16% and about 30%, between about 16% and about 25%, or between about 16% and about 22%.

JX-17 at CSI00177348 (col. 4:11-34), Ex. 14 (emphases added); 10/24/19 Trial Tr. at 1337:13-21 (Murphy Direct), Ex. 15. Likewise, in discussing the preferred embodiment, the '084 Patent again identifies only ranges of DPA within 7-35%:

> In a preferred embodiment of the first aspect above, the lipid or oil, preferably a seedoil, more preferably a *Brassica* sp. seedoil or *Camelina sativa* seedoil, has the following features: in the total fatty acid content of the lipid or oil, ***the level of DPA is between about 7% and 30% or between about 7% and 35%*** . . . .

JX-17 at CSI00177351 (col. 9:39-44), Ex. 14 (emphasis added); 10/24/19 Trial Tr. at 1337:22-1338:3 (Murphy Direct), Ex. 15. In fact, as Dr. Murphy testified, the patent "repeatedly refer[s] to between 7 and 30 or 7 and 35 percent" DPA throughout the specification. 10/24/19 Trial Tr. at 1338:4-7 (Murphy Direct), Ex. 15; *see, e.g.*, JX-17 at CSI00177351 (col. 10:63-67); CSI00177352 (col. 12:42-67) (describing multiple preferred ranges of DPA within the 7-35% range); CSI00177353 (col. 13:1-16); CSI00177356 (col. 20:24-39), Ex. 14.

Dr. Murphy opined that in light of these explicit and repetitive disclosures describing the inventive oil as having 7-35% DPA, the specification does not convey to a person of ordinary skill in the art that the inventors possessed oil with 1-16% DPA as claimed. 10/24/19 Trial Tr. at 1338:13-16 (Murphy Direct), Ex. 15. And significantly, Dr. Murphy was never cross-examined on his opinions regarding the '084 Patent. *See generally* 10/24/19 Trial Tr. at 1364:15-1425:21 (Murphy Cross), Ex. 15.

2. Proponents' attack on the jury's invalidity finding lacks merit

Proponents' attack on the jury's finding of invalidity is meritless. Proponents first advance attorney argument that the specification describes the claimed transgenic *Brassica* plants comprising seed oil having 1% to 16% DPA. To do so, they pluck three statements from the specification that no one testified about at trial. *See* ECF No. 853 at 13-14 (citing specification without supporting testimony). But those statements do not support Proponents' argument. Two of the statements only describe DPA levels of 10-18% and 5-35%, missing much of the claimed 1-16% range, meaning the entire claimed range is not described. *See id.* at 14; JX-17 at CSI00177397 (col. 102:40-43), CSI00177365 (col. 37:49-53), Ex. 14. And, the other statement merely describes DPA levels "up to 35%." (not 1-16%).[9] *See* ECF No. 853 at 14; JX-17 at CSI00177398 (col. 104:1-22), Ex. 14. Those disclosures would not convey to a person of ordinary skill in the art that the inventors actually invented *Brassica* seed oil with the claimed 1-16% DPA, especially in light of the patent's repeated disclosure of the invention as a seed oil comprising 7-35% DPA. Case law makes clear that it is improper to "work[] backward from a knowledge of [the claims], that is by hindsight . . . to derive written description support from an amalgam of disclosures plucked selectively" from the specification. *Novozymes*, 723 F.3d at 1349. But that is exactly what Proponents seek to do by invoking these three statements as supporting a 1-16% DPA range when none of them could be fairly read to do so.

Similarly, Proponents' expert, Dr. Kunst, cobbled together data from various tables in the patent (of both the *Arabidopsis* model plant and *Brassica juncea* crop plant) based entirely on

[9] Proponents likewise cite to a statement in the specification to argue that the '084 Patent discloses the claimed DHA range. ECF No. 853 at 14 ("the level of DHA in the total fatty acid content of the extracted plant lipid is less than 2%, preferably less than 1%, or between 0.1% and 2%" (quoting JX-17 at CSI00177351 (col. 9:27-29), Ex. 14)). But again, that statement is untethered to any embodiment, and does not show that the inventors were in possession of the claimed subject matter as a whole.

hindsight, rather than addressing the plain language of the '084 Patent describing the alleged invention. *See* 10/29/19 Trial Tr. at 1759:20-1764:22 (Kunst Rebuttal Direct), Ex. 16 hereto. But that too is the exact type of selective hindsight reconstruction that the Federal Circuit has held to be improper as a matter of law.[10] *See Novozymes*, 723 F.3d at 1349.

Proponents' reliance on Tables 17 through 20 of the specification is likewise misplaced. ECF No. 853 at 14-16. Contrary to Proponents' assertion, the identified results do not "disclose[] *Brassica* plants that produce low, non-zero levels of DHA and levels of DPA between 1–16%" (*id.* at 17), let alone show that the inventors actually invented the claimed *Brassica* seed oil. Indeed, the same evidence was already presented to the jury by Dr. Kunst, and the jury chose not to credit it. 10/29/19 Trial Tr. at 1759:20-1764:22 (Kunst Rebuttal Direct), Ex. 16. And rightfully so. Buried in a 234-column specification, Table 19 discloses a single *Brassica juncea* seed (JT1-4-B-7) with an oil profile of 4.1% DPA and 0.1% DHA. All of the other seeds highlighted by Proponents and Dr. Kunst disclose no DHA.[11] 10/30/19 Trial Tr. at 1870:11-25 (Kunst Rebuttal Cross), Ex. 1; ECF No. 853 at 14-16. Notably, the specification of the '084 Patent never discusses Table 19, let alone the JT1-4-B-7 seed. With respect to Table 17, the specification only highlights that there were seeds with 10-18% DPA, consistent with the patent's repeated disclosure that the invention is limited to 7-35% DPA. JX-17 at CSI00177397

[10] Even in their closing arguments, Proponents would not address the clear and convincing evidence of invalidity, limiting their argument to two conclusory sentences that vaguely directed the jury to Dr. Kunst's hindsight cherry-picking. 10/31/19 Trial Tr. at 2070:18-20, Ex. 13 hereto (Proponents' Closing Arguments, addressing the written description of the '084 Patent in only three lines of roughly 50 pages of argument).

[11] Proponents critique Dr. Murphy for "neglect[ing] to consider these examples" (ECF No. 853 at 18 (referring to Tables 17-20)), but Dr. Murphy was under no obligation to respond to every flawed point relied on by Proponents' expert at trial. Indeed, if Proponents believed Dr. Murphy's opinions omitted a key example, they should have cross-examined him at trial about it. They did not.

(col. 102:39-42), Ex. 14. Such disclosures hardly constitute "blaze marks" directing a person of ordinary skill in the art to the range that is specifically claimed—1-16% DPA, as Federal Circuit precedent requires to satisfy the written description requirement. *Novozymes*, 723 F.3d at 1349 ("Taking each claim—as we must—as an integrated whole rather than as a collection of independent limitations, one searches the 2000 application in vain for the disclosure of even a single species that falls within the claims or for any 'blaze marks' that would lead an ordinarily skilled investigator toward such a species among a slew of competing possibilities.").

No doubt recognizing the lack of written description of 1-16% DPA in the claimed *Brassica* oil (the specification expressly describes 7-35% DPA in *Brassica*, specifically (JX-17 at CSI00177351 (col. 9:39-44), Ex. 14), Proponents again cherry-pick individual seed data, this time from experiments performed in the unclaimed *Arabidopsis* model plant. ECF No. 853 at 17 (referring to Table 12 of the specification). But, even if the Court were to set aside the express description of 7-35% in *Brassica* (which the Court should not do), the limited results in *Arabidopsis* do not constitute the "blaze marks" necessary to satisfy the written description requirement.[12] Indeed, beyond reporting those few data points in the specification's tables—amongst many more samples with much higher DPA levels—the specification in no way signifies that oil with lower amounts of DPA is preferred.

[12] Further, BASF established at trial that *Arabidopsis* and *Brassica* are very different. *Arabidopsis* is an academic model plant while *Brassica* is a commercial crop plant. 10/21/19 Trial Tr. at 704:4-10, 705:10-11, 757:14-17 (Singh Cross), Ex. 6; 10/22/19 Trial Tr. at 941:20-25, 942:17-22, 944:20-945:14 (Andre Direct), Ex. 2; 10/24/19 Trial Tr. at 1308:16-1309:6, 1318:12-1319:21 (Murphy Direct), Ex. 15; 10/29/19 Trial Tr. at 1743:8-16 (Kunst Rebuttal Direct), Ex. 16. There are major differences between the two plants in their seed oil, physical properties (including starting fatty acid profile), and genetic makeup. A person of ordinary skill in the art would not view data from *Arabidopsis* as equivalent to *Brassica*. That is borne out by the fact that essentially none of the data in the '084 Patent from *Brassica* meets the elements of the claim at issue.

Proponents also argue that "clear and convincing evidence of inadequate written description cannot be predicated on the mere fact that there is no perfect overlap between the DPA ranges disclosed in the specification and the DPA range recited in the asserted claim." ECF No. 853 at 18. The case law cited by Proponents is inapposite; those cases do not support a finding of written description where there is a portion of the claimed range (here, less than 7% DPA, in combination with the other elements of the claim) that is not described in the specification. *Vanda* and *Application of Wertheim* merely stand for the proposition—not at issue here—that disclosure of a broad range can be written description support for a narrower claimed range encompassed within it. *Vanda Pharm. Inc. v. W.-Ward Pharm. Int'l Ltd.*, 887 F.3d 1117, 1137 (Fed. Cir. 2018); *Application of Wertheim*, 541 F.2d 257, 265 (C.C.P.A. 1976). *Vas-Cath Inc.* is even further removed from this case; in that case, the court found diagrams of a patent (there are none here) could support the claimed diameter range. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1566 (Fed. Cir. 1991).

Finally, Proponents contend that there is written description because "the specification explains how the claimed DPA and DHA levels could be obtained in seed oil from transgenic *Brassica* plants: by either inactivating or partially inhibiting Δ4 desaturase activity and/or increasing LPAAT activity." ECF No. 853 at 16. That is the same conclusory argument that Dr. Kunst made at trial, and which the jury's verdict demonstrates was not persuasive. 10/29/19 Trial Tr. at 1763:9-1764:22 (Kunst Rebuttal Direct), Ex. 16. And for good reason. Dr. Kunst only gave conclusory testimony that the '084 Patent specification described ways to get a plant with an unspecified amount of "higher DPA/lower DHA"; she did not explain how that demonstrated a preference for the claimed 1-16% DPA—which plainly includes *lower*, not

higher, DPA amounts, and did not refer to any specific portions of the patent.[13] *Id.* at 1763:16-1764:22 (Kunst Rebuttal Direct).

There is no basis to disturb the jury's verdict finding claim 1 of the '084 Patent invalid for written description.

IV. CONCLUSION

For the foregoing reasons, BASF/Cargill respectfully request that the Court deny Proponents' motions for judgment as a matter of law and new trial in their entirety.

[13] In fact, Dr. Kunst testified that the importance of the '084 Patent is that it shows "accumulation of ***high levels of DPA***." 10/29/19 Trial Tr. at 1759:25-1760:3 (Kunst Rebuttal Direct) (emphasis added), Ex. 16. In light of that testimony, the jury certainly could have found her subsequent conclusory testimony that the inventors possessed an oil with 1-16% DPA not credible, given that 1-16% DPA includes low, not high, levels of DPA.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have on this 4th day of February 2020, electronically filed the foregoing with the Clerk of Court using the CM/ECF system which does send notification of such filing to all counsel of record.

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